

Author Index of Volume 173

- Adamišová, S., 367
Afonso, C. N., 343
Ahlborn, H., 133
Altıntaş, S., 227
Alvarez de Toledo, G., 287
Andrä, H., 59
Arnberg, L., 101, 243, 267
Atkinson, H. V., 233
- Babscán, N., 137
Backerud, L., 101
Baram, J., 397
Barat, C., 15
Bárczy, P., 137
Bas, J., 239
Baumgartl, J., 9
Bauser, E., 33
Beltran, G., 239
Bender, H., 347
Berrenberg, Th., 415
Beyer, B., 309
Bielle-Daspet, D., 379
Bobadilla, M., 275
Boneberg, J., 347
Boros, F., 351
Bostanjoglo, O., 409
Brown, S., 23
Brusethaug, S., 213, 243
Bune, A., 9
Buza, G., 351
- Camel, D., 93
Campbell, J., 261
Cantor, B., 37
Carpentier, D., 155
Catalina, F., 343
Čečil, Z., 189, 197
Chai, G., 101
Charbon, Ch., 143
Chen, C. C., 383
Chin, Z. H., 383
Chong, S. Y., 233
Cini, E., 391
Cirión, J. C., 287
Combeau, H., 155, 317
Coutures, J., 185
Coutures, J. P., 185
- Demo, P., 41, 45
Diefenbach, S., 133
Drápala, J., 73
Duffar, T., 15
Duhaj, P., 367
Durand, F., 63, 105
de la Fuente, G. F., 201
de Mauduit, B., 379
- Edmonds, D. V., 251
Elliott, R., 129
Etienne, S., 55
Exner, H. E., 149
- Figueiredo, M. O., 115
Flatval, R., 267
Fontaine, G., 239
Fredriksson, H., 403
Frenk, A., 339
Frommeyer, G., 327
Fujii, T., 293
- Gácsi, Z., 137
Garda, B., 105
Gauthier, R., 55
Gedde, U. W., 173
George, T. F., 193
Gervais, M., 185
Gill, S. C., 335
Goldschmidt, D., 49
Gonçalves, A., 115
Green, N. R., 261
Griffiths, W. D., 123
Grilhé, J., 29
Guillemet, J. P., 379
- Haddad-Sabzevar, M., 403
Han, Q., 221
Harris, R., 89
Hayes, D. M., 371
Henderson, M. B., 251
Herlach, D. M., 357
Hevesi, I., 193
Heyder, B., 327
Hirst, P., 23
Ho, C. R., 37
Hodaj, F., 105
Hofmann, D., 67
Horvat, D., 181
Hunt, J. D., 79, 221, 251
- Idogawa, A., 293
Inoue, A., 1
- Jacot, A., 143
Janičkovič, D., 367
Jelski, D. A., 193
Jolivet, J. M., 275
Jones, H., 109, 161, 233
Jörgenson, L., 89
Jung, T., 67
Junqua, N., 29
Jurisch, M., 323
- Kaláb, L., 189, 197
Koai, K., 9
- Kodejs, Z., 197
Kohout, J., 189, 197
Kolic, Y., 55
Kolsgaard, A., 213, 243
Konttinen, J., 299
Kousal, J., 189, 197
Kožíšek, Z., 41, 45
Kraft, T., 149
Kréziak, G., 255
Kubičár, L., 367
Kuchař, Jr., L., 73
Kuchař, L., 73
Kunze, J., 309
Kurz, W., 335, 339, 357, 363
- Laakmann, J., 165
Lacaze, J., 119, 155
Lainez, J., 287
Lamant, J. Y., 275
Larrea, A., 201
Larrecq, M., 275
Laskar, O., 93
Le Floch, S., 185
Leiderer, P., 347
Leonhardt, M., 309
Lesoult, G. R. J., 119, 155, 317
Liang, D., 109
Liu, J., 129
Löser, W., 323
Lu, S. Z., 79
Luňáček, J., 73
- Majchrowski, A., 19
Margarido, F., 115
Marshall, A., 23
Martins, J. P., 115
Masumoto, T., 1
Mathes, M., 85
McCartney, D. G., 123
Meier, M., 137
Mergen, R., 415
Mertinger, V., 137
Mickel, C., 309
Mills, K. C., 371
Miyazawa, K., 305
Mizukami, H., 363
Moir, S. A., 161
Monaghan, D. J., 251
Moreau, R., 93
Morilla, M. C., 343
Mortensen, A., 205
Možina, J., 181
Müller, G., 9, 67
- Nabot, J.-Ph., 15
Nakashima, J., 305

Nánai, L., 193
Navarro, R., 201
Nedelcu, J., 347
Neumann, H., 133

Ogibayashi, S., 305
Ollacartizqueta, M. A., 343
Otte, D., 409

Paul, U., 49
Perng, T. P., 383
Petovar, S., 313
Pieraggi, B., 379
Pillin, B., 63
Pinard, P., 55
Prandžev, L., 189
Prinz, B., 133

Quested, P. N., 371

Radojević, B. B., 387
Raihle, C. M., 299
Rappaz, M., 143
Ratke, L., 133
Richter, H. H., 59
Rifflet, J. C., 185
Rigaut, C., 255
Rivlin, Z., 397

Rizvi, N. H., 343
Rølland, T., 267
Romero, A., 133
Roósz, A., 351
Rosická, V., 189, 197
Ruiz, M. T., 201

Sahm, P. R., 49
Santarini, M., 255
Sarti, D., 63
Savaş, M. A., 227
Schäfer, N., 67
Scheid, E., 379
Schievenbusch, A., 85
Schmidt, P., 271
Sedlacek, J., 197
Seidl, A., 9
Servant, S., 63
Sivesson, P., 299
Skokanek, M., 197
Sof, S., 55
Solis, J., 343
Sommer, F., 357
Sorimachi, K., 293
Sotelo, A., 201
Štětina, J., 189
Sugimaru, S., 305

Sugizawa, M., 293
Suzuki, T., 363

Takeuchi, S., 293
Tanaka, M., 93
Teleszky, I., 351
Thiem, S., 323
Tillack, B., 59
Torkar, M., 313
Tournier, S., 391

Umeda, T., 363

Vajtai, R., 193
Vannier, I., 317
Venkrbec, J. J., 189, 197
Vinet, B., 391
Vivès, Ch., 169, 239
Vodopivec, F., 313

Wei, B., 357
Weinelt, W., 59
Weishart, H., 33
Werner, P.-E., 173
Wiberg, G., 173

Zemke, D., 67
Zimmermann, G., 85
Žmija, J., 19

Subject Index of Volume 173

Admixtures

- systematic study and periodic dependence of equilibrium distribution coefficients of admixtures on the atomic number of admixtures and their importance for crystallization, 73

Alloys

- cooling schedule effects on the microsegregation in Al-Mg-Si alloys, 149
 - effect of ceramic particle size, melt superheat, impurities and alloy conditions on threshold pressure for infiltration of SiC powder compacts by aluminium-based melts, 233
 - effects of electromagnetic vibrations on the microstructure of continuously cast aluminium alloys, 169
 - effects of squeeze casting on the wide freezing range binary alloys, 227
 - experimental investigation of the development of microsegregation during solidification of an Al-Cu-Mg-Si aluminium alloy, 119
 - high drop tube undercooling experiments on Ta-Zr alloys, 391
 - high speed laser cladding: solidification conditions and microstructure of a cobalt-based alloy, 339
 - investigation of the Marangoni-motion on ternary Al-Si-Bi alloys under microgravity conditions, 133
 - laser rapid solidification of Al-Cu alloys: banded and plane front growth, 335
 - macrostructural development in aluminium alloys solidified vertically downwards, 123
 - Mg-based amorphous alloys, 1
 - modelling of microporosity formation in aluminium alloys castings, 155
 - morphologies of primary Al_3Fe in Bridgman solidification and TIG weld traversing of hypereutectic Al-Fe alloys, 109
 - precipitation during the solidification and cooling of microalloyed iron, 309
 - preparation and crystallization of $Ti_{50}Mn_{50}$ amorphous alloy, 383
 - rapid solidification of undercooled eutectic and monotectic alloys, 357
 - solidification of Al-6Zn-2Mg alloy after laser remelting, 351
 - statistical distributions of fracture strengths of cast Al-7Si-Mg alloy, 261
 - steady state solidification of reinforced binary alloys, 205
 - strain induced macrosegregation in squeeze cast Al-Ag and Al-Si alloys, 267
 - the gas velocity profile of a free fall atomizer and its relation to solidification microstructure of collected spray droplets of 2014 aluminium alloy, 161
 - thermal and electrical properties of metastable alloy 72%Ti-28%Co, 387
 - thermoelectric magnetohydrodynamic effects on solidification of metallic alloys in the dendritic regime, 93
- ### Aluminium
- casting of rapidly solidified AlPb-coatings, 415
 - cooling schedule effects on the microsegregation in Al-Mg-Si alloys, 149
 - effect of ceramic particle size, melt superheat, impurities and alloy conditions on threshold pressure for infiltration of SiC powder compacts by aluminium-based melts, 233

- effects of electromagnetic vibrations on the microstructure of continuously cast aluminium alloys, 169
- experimental investigation of the development of microsegregation during solidification of an Al-Cu-Mg-Si aluminium alloy, 119
- heterogeneous nucleation of solidification of Si in Al-Si, 37
- investigation of the Marangoni-motion on ternary Al-Si-Bi alloys under microgravity conditions, 133
- laser rapid solidification of Al-Cu alloys: banded and plane front growth, 335
- low pressure permanent mould process simulation of a thin wall aluminium casting, 255
- macrostructural development in aluminium alloys solidified vertically downwards, 123
- melt motions during unidirectional solidification of Al-Al₃Ni eutectics, 137
- metastable solidification process of $Ln_3Al_5O_{12}$ ($Ln \equiv Dy, Y, Lu$) garnets, 185
- microstructural defects in high productivity twin-roll casting of aluminium, 251
- microstructure development and ultramicrohardness of AlFeCe solidified under free fall conditions, 165
- microstructure vs. casting processes in the Fe-Si-Ca-Al system, 115
- modelling of microporosity formation in aluminium alloys castings, 155
- morphologies of primary Al_3Fe in Bridgman solidification and TIG weld traversing of hypereutectic Al-Fe alloys, 109
- settling of SiC particles in an AlSi7Mg melt, 213
- solidification microstructures of aluminium AlSi7Mg-siC particulate composite, 243
- solidification of Al-6Zn-2Mg alloy after laser remelting, 351
- statistical distributions of fracture strengths of cast Al-7Si-Mg alloy, 261
- strain induced macrosegregation in squeeze cast Al-Ag and Al-Si alloys, 267
- the gas velocity profile of a free fall atomizer and its relation to solidification microstructure of collected spray droplets of 2014 aluminium alloy, 161

Antimony

- fast-crystallizing Sb-based thin films under pico- and nano-second laser pulses, 343

Binary mixtures

- crystallization kinetics of binary mixtures of isotactic polypropylene and poly(iso-propylene-stat-1-hexene), 173

Bismuth

- investigation of the Marangoni-motion on ternary Al-Si-Bi alloys under microgravity conditions, 133
- microstructure of laser floating zone (LFZ) textured (Bi,Pb)-Sr-Ca-Cu-O superconductor composites, 201

Bridgman technique

- morphologies of primary Al_3Fe in Bridgman solidification and TIG weld traversing of hypereutectic Al-Fe alloys, 109

Cabrera-Mott regions

- kinetics of oxide crystal growth in the transition regime between Cabrera-Mott and Wagner thickness regions, 193

Calcium

- microstructure of laser floating zone (LFZ) textured (Bi,Pb)-Sr-Ca-Cu-O superconductor composites, 201
- microstructure vs. casting processes in the Fe-Si-Ca-Al system, 115

Carbon

- effect of ceramic particle size, melt superheat, impurities and alloy conditions on threshold pressure for infiltration of SiC powder compacts by aluminium-based melts, 233
- rapidly solidified ribbons of Fe-2C-13Cr-1Si-Mo alloys by the planar flow melt spinning process, 403
- settling of SiC particles in an AlSi7Mg melt, 213
- solidification microstructures of aluminium AlSi7Mg-SiC particulate composite, 243

Casting

- analysis of heat transfer in the process of ribbon casting by rapid solidification, 367

Casting of rapidly solidified AlPb-coatings, 415

- continuous casting of steel: a close connection between solidification studies and industrial process development, 275
- continuous casting of thin wires and fibres by in-rotating-liquid spinning, 327
- control of molten steel flow in continuous casting mold by two static magnetic fields imposed on whole width, 293
- effects of electromagnetic vibrations on the microstructure of continuously cast aluminium alloys, 169
- effects of squeeze casting on the wide freezing range binary alloys, 227
- heat transfer during filling in die casting processes, 271
- low pressure permanent mould process simulation of a thin wall aluminium casting, 255
- microstructural defects in high productivity twin-roll casting of aluminium, 251
- microstructure vs. casting processes in the Fe-Si-Ca-Al system, 115
- model optimization of continuous casting steel secondary cooling, 287
- solidification modelling of microstructures in near-net-shape casting of steels, 323
- statistical distributions of fracture strengths of cast Al-7Si-Mg alloy, 261
- strain induced macrosegregation in squeeze cast Al-Ag and Al-Si alloys, 267
- theoretical analysis on the suppression of solidification shrinkage flow in continuously cast steel blooms, 305
- thermal soft reduction in continuously cast slabs, 299

Cellular array growth

- numerical modelling of cellular and dendritic array growth: spacing and structure predictions, 79

Cellular spacing

- comparison of different analysis techniques to determine the cellular and dendritic spacing, 85

Ceramics

- effect of ceramic particle size, melt superheat, impurities and alloy conditions on threshold pressure for infiltration of SiC powder compacts by aluminium-based melts, 233

Cerium

- microstructure development and ultramicrohardness of AlFeCe solidified under free fall conditions, 165

Chromium

- analysis of segregations in as-cast $X_{40}CrMoV_{51}$ steel, 313
- rapidly solidified ribbons of Fe-2C-13Cr-1Si-Mo alloys by the planar flow melt spinning process, 403

Cluster growth

- numerical simulation of cluster growth during the transient nucleation period in melt-spinning, 397

Coatings

- casting of rapidly solidified AlPb-coatings, 415

Cobalt

- high speed laser cladding: solidification conditions and microstructure of a cobalt-based alloy, 339
- thermal and electrical properties of metastable alloy 72%Ti-28%Co, 387

Cold wall furnace

- model-based directional solidification of semiconductor materials by the VGF-technique using multi-zone cold wall furnace technology, 67

Composites

- solidification microstructures of aluminium AlSi7Mg-SiC particulate composite, 243

Convection

- Czochralski growth of oxide single crystals under conditions of forced convection in the melt, 19
- global simulation of heat transport, including melt convection in a Czochralski crystal growth process—combined finite element/finite volume approach, 9
- three-dimensional probabilistic modelling of equiaxed eutectic solidification in the presence of convection, 143

Cooling

- high drop tube undercooling experiments on Ta-Zr alloys, 391
- model optimization of continuous casting steel secondary cooling, 287
- precipitation during the solidification and cooling of microalloyed iron, 309
- rapid solidification of undercooled eutectic and monotectic alloys, 357

Copper

- experimental investigation of the development of microsegregation during solidification of an Al-Cu-Mg-Si aluminium alloy, 119
- laser rapid solidification of Al-Cu alloys: banded and plane front growth, 335
- microstructure of laser floating zone (LFZ) textured (Bi,Pb)-Sr-Ca-Cu-O superconductor composites, 201

Crystallization

- systematic study and periodic dependence of equilibrium distribution coefficients of admixtures on the atomic number of admixtures and their importance for crystallization, 73

Crystals

- crystallization kinetics of binary mixtures of isotactic polypropylene and poly(iso-propylene-stat-1-hexene), 173
- crystallization of tunable substrate optoelectronic materials, 197
- Czochralski growth of oxide single crystals under conditions of forced convection in the melt, 19
- development of a new crystal growth process using a semiconductor powder and reducing the thermal stresses, 55
- fast-crystallizing Sb-based thin films under pico- and nanosecond laser pulses, 343
- global simulation of heat transport, including melt convection in a Czochralski crystal growth process—combined finite element/finite volume approach, 9
- growth conditions for improving the quality of semiconductor single crystal material, 33
- inhomogeneities in single-crystal components, 49
- kinetics of oxide crystal growth in the transition regime between Cabrera-Mott and Wagner thickness regions, 193
- modellization and numerical simulation for bulk crystal growth processes, 15

- preparation and crystallization of $\text{Ti}_{50}\text{Mn}_{50}$ amorphous alloy, 383
- surface instabilities and dislocation formation during crystal growth, 29
- the growth of single crystals of lead molybdate by the Czochralski technique, 23
- thermal analysis on zone-melting recrystallization of silicon-insulator films using a finite difference method, 59
- vibrational crystallization of optoelectronic materials, 189
- Czochralski technique**
- Czochralski growth of oxide single crystals under conditions of forced convection in the melt, 19
- global simulation of heat transport, including melt convection in a Czochralski crystal growth process—combined finite element/finite volume approach, 9
- the growth of single crystals of lead molybdate by the Czochralski technique, 23
- Defects**
- microstructural defects in high productivity twin-roll casting of aluminium, 251
- Dendrites**
- comparison of different analysis techniques to determine the cellular and dendritic spacing, 85
- determination of dendritic coherency in solidifying melts by rheological measurements, 101
- Monte Carlo simulation studies of dendritic instabilities with faceted tips, 89
- numerical modelling of cellular and dendritic array growth: spacing and structure predictions, 79
- thermoelectric magnetohydrodynamic effects on solidification of metallic alloys in the dendritic regime, 93
- Dislocation**
- surface instabilities and dislocation formation during crystal growth, 29
- Dysprosium**
- metastable solidification process of $\text{Ln}_3\text{Al}_5\text{O}_{12}$ ($\text{Ln} \equiv \text{Dy, Y, Lu}$) garnets, 185
- Electromagnetic vibrations**
- effects of electromagnetic vibrations on the microstructure of continuously cast aluminium alloys, 169
- Electron beam buttons**
- factors controlling raft formation in electron beam buttons, 371
- Equilibrium distribution**
- systematic study and periodic dependence of equilibrium distribution coefficients of admixtures on the atomic number of admixtures and their importance for crystallization, 73
- Eutectics**
- melt motions during unidirectional solidification of Al- Al_3Ni eutectics, 137
- rapid solidification of undercooled eutectic and monotectic alloys, 357
- three-dimensional probabilistic modelling of equiaxed eutectic solidification in the presence of convection, 143
- Eutectics**
- irregular eutectic solidification, 129
- Faceted tips**
- Monte Carlo simulation studies of dendritic instabilities with faceted tips, 89
- Fibres**
- continuous casting of thin wires and fibres by in-rotating-liquid spinning, 327
- Fracture**
- statistical distributions of fracture strengths of cast Al-7Si-Mg alloy, 261
- Gas velocity profile**
- the gas velocity profile of a free fall atomizer and its relation to solidification microstructure of collected spray droplets of 2014 aluminium alloy, 161
- Grain structures**
- crystallization of amorphous thin LPCVD Si films: "in situ" TEM measurement of nucleation and grain growth rates, 379
- grain structure of silicon solidified from an inductive cold crucible, 63
- semi-analytical calculation of equiaxed grain-size in recalescence conditions, 105
- Growth processes**
- development of a new crystal growth process using a semiconductor powder and reducing the thermal stresses, 55
- modellization and numerical simulation for bulk crystal growth processes, 15
- Heat transfer**
- analysis of heat transfer in the process of ribbon casting by rapid solidification, 367
- heat transfer during filling in die casting processes, 271
- Helical induction**
- fabrication of metal matrix composites using a helical induction stirrer, 239
- Induction**
- grain structure of silicon solidified from an inductive cold crucible, 63
- Ingots**
- numerical model for prediction of the final segregation pattern of bearing steel ingots, 317
- Iron**
- microstructure development and ultramicrohardness of AlFeCe solidified under free fall conditions, 165
- microstructure vs. casting processes in the Fe-Si-Ca-Al system, 115
- morphologies of primary Al_3Fe in Bridgman solidification and TIG weld traversing of hypereutectic Al-Fe alloys, 109
- precipitation during the solidification and cooling of microalloyed iron, 309
- rapidly solidified ribbons of Fe-2C-13Cr-1Si-Mo alloys by the planar flow melt spinning process, 403
- Lasers**
- dynamics of the solidification of laser-annealed Si thin films, 347
- fast-crystallizing Sb-based thin films under pico- and nano-second laser pulses, 343
- high speed laser cladding: solidification conditions and microstructure of a cobalt-based alloy, 339
- high speed transmission electron microscopy laser quenching, 409
- laser rapid solidification of Al-Cu alloys: banded and plane front growth, 335
- microstructure of laser floating zone (LFZ) textured (Bi,Pb)-Sr-Ca-Cu-O superconductor composites, 201
- solidification of Al-6Zn-2Mg alloy after laser remelting, 351
- Lead**
- casting of rapidly solidified AlPb-coatings, 415
- microstructure of laser floating zone (LFZ) textured (Bi,Pb)-Sr-Ca-Cu-O superconductor composites, 201
- the growth of single crystals of lead molybdate by the Czochralski technique, 23

- Low pressure chemical vapour deposition
crystallization of amorphous thin LPCVD Si films: "*in situ*"
TEM measurement of nucleation and grain growth rates, 379
- Low pressure permanent moulds
low pressure permanent mould process simulation of a thin wall aluminium casting, 255
- Lutetium
metastable solidification process of $\text{Ln}_3\text{Al}_5\text{O}_{12}$ ($\text{Ln} \equiv \text{Dy, Y, Lu}$) garnets, 185
- Magnesium
cooling schedule effects on the microsegregation in Al-Mg-Si alloys, 149
experimental investigation of the development of microsegregation during solidification of an Al-Cu-Mg-Si aluminium alloy, 119
Mg-based amorphous alloys, 1
settling of SiC particles in an AlSi7Mg melt, 213
solidification microstructures of aluminium AlSi7Mg-SiC particulate composite, 243
solidification of Al-6Zn-2Mg alloy after laser remelting, 351
statistical distributions of fracture strengths of cast Al-7Si-Mg alloy, 261
- Magnetic fields
control of molten steel flow in continuous casting mold by two static magnetic fields imposed on whole width, 293
- Magnetohydrodynamics
thermoelectric magnetohydrodynamic effects on solidification of metallic alloys in the dendritic regime, 93
- Manganese
preparation and crystallization of $\text{Ti}_{50}\text{Mn}_{50}$ amorphous alloy, 383
- Marangoni motion
investigation of the Marangoni-motion on ternary Al-Si-Bi alloys under microgravity conditions, 133
- Melting
Czochralski growth of oxide single crystals under conditions of forced convection in the melt, 19
determination of dendritic coherency in solidifying melts by rheological measurements, 101
effect of ceramic particle size, melt superheat, impurities and alloy conditions on threshold pressure for infiltration of SiC powder compacts by aluminium-based melts, 233
global simulation of heat transport, including melt convection in a Czochralski crystal growth process—combined finite element/finite volume approach, 9
melt motions during unidirectional solidification of Al-Al₃Ni eutectics, 137
settling of SiC particles in an AlSi7Mg melt, 213
- Metal matrix composites
fabrication of metal matrix composites using a helical induction stirrer, 239
- Metals
thermoelectric magnetohydrodynamic effects on solidification of metallic alloys in the dendritic regime, 93
- Microporosity
modelling of microporosity formation in aluminium alloys castings, 155
- Molybdenum
analysis of segregations in as-cast $\text{X}_{40}\text{CrMoV}_{51}$ steel, 313
rapidly solidified ribbons of Fe-2C-13Cr-1Si-Mo alloys by the planar flow melt spinning process, 403
- Monte Carlo simulation
Monte Carlo simulation studies of dendritic instabilities with faceted tips, 89
- Nickel
melt motions during unidirectional solidification of Al-Al₃Ni eutectics, 137
- Nucleation
approximate analytical solution of nucleation problems, 41
crystallization of amorphous thin LPCVD Si films: "*in situ*"
TEM measurement of nucleation and grain growth rates, 379
heterogeneous nucleation of solidification of Si in Al-Si, 37
numerical modelling of transient binary nucleation, 45
numerical simulation of cluster growth during the transient nucleation period in melt-spinning, 397
- Optoelectronics
crystallization of tunable substrate optoelectronic materials, 197
vibrational crystallization of optoelectronic materials, 189
- Oxides
Czochralski growth of oxide single crystals under conditions of forced convection in the melt, 19
kinetics of oxide crystal growth in the transition regime between Cabrera-Mott and Wagner thickness regions, 193
- Oxygen
metastable solidification process of $\text{Ln}_3\text{Al}_5\text{O}_{12}$ ($\text{Ln} \equiv \text{Dy, Y, Lu}$) garnets, 185
- Particle pushing
particle pushing: the distribution of particles in liquid near a solid surface, 221
- Polyester
optical monitoring of the solidification process of polyester and vinyl resins, 181
- Polypropylene
crystallization kinetics of binary mixtures of isotactic polypropylene and poly(iso-propylene-stat-1-hexene), 173
- Poly(iso-propylene-stat-1-hexane)
crystallization kinetics of binary mixtures of isotactic polypropylene and poly(iso-propylene-stat-1-hexene), 173
- Powders
development of a new crystal growth process using a semiconductor powder and reducing the thermal stresses, 55
- Precipitation
precipitation during the solidification and cooling of microalloyed iron, 309
- Raft formation
factors controlling raft formation in electron beam buttons, 371
- Recalescence
semi-analytical calculation of equiaxed grain-size in recalescence conditions, 105
- Reinforcement
steady state solidification of reinforced binary alloys, 205
- Segregation
numerical model for prediction of the final segregation pattern of bearing steel ingots, 317
- Semiconductors
development of a new crystal growth process using a semiconductor powder and reducing the thermal stresses, 55
growth conditions for improving the quality of semiconductor single crystal material, 33
model-based directional solidification of semiconductor materials by the VGF-technique using multi-zone cold wall furnace technology, 67

Shrinkage

- theoretical analysis on the suppression of solidification shrinkage flow in continuously cast steel blooms, 305

Silicon

- cooling schedule effects on the microsegregation in Al-Mg-Si alloys, 149
- crystallization of amorphous thin LPCVD Si films: "in situ" TEM measurement of nucleation and grain growth rates, 379
- dynamics of the solidification of laser-annealed Si thin films, 347
- effect of ceramic particle size, melt superheat, impurities and alloy conditions on threshold pressure for infiltration of SiC powder compacts by aluminium-based melts, 233
- experimental investigation of the development of microsegregation during solidification of an Al-Cu-Mg-Si aluminium alloy, 119
- grain structure of silicon solidified from an inductive cold crucible, 63
- heterogeneous nucleation of solidification of Si in Al-Si, 37
- investigation of the Marangoni-motion on ternary Al-Si-Bi alloys under microgravity conditions, 133
- microstructure vs. casting processes in the Fe-Si-Ca-Al system, 115
- rapidly solidified ribbons of Fe-2C-13Cr-1Si-Mo alloys by the planar flow melt spinning process, 403
- settling of SiC particles in an AlSi7Mg melt, 213
- solidification microstructures of aluminium AlSi7Mg-SiC particulate composite, 243
- statistical distributions of fracture strengths of cast Al-7Si-Mg alloy, 261
- strain induced macrosegregation in squeeze cast Al-Ag and Al-Si alloys, 267
- thermal analysis on zone-melting recrystallization of silicon-on-insulator films using a finite difference method, 59

Silver

- strain induced macrosegregation in squeeze cast Al-Ag and Al-Si alloys, 267

Solidification

- analysis of heat transfer in the process of ribbon casting by rapid solidification, 367
- casting of rapidly solidified AlPb-coatings, 415
- continuous casting of steel: a close connection between solidification studies and industrial process development, 275
- determination of dendritic coherency in solidifying melts by rheological measurements, 101
- dynamics of the solidification of laser-annealed Si thin films, 347
- experimental investigation of the development of microsegregation during solidification of an Al-Cu-Mg-Si aluminium alloy, 119
- grain structure of silicon solidified from an inductive cold crucible, 63
- heterogeneous nucleation of solidification of Si in Al-Si, 37
- high speed laser cladding: solidification conditions and microstructure of a cobalt-based alloy, 339
- initial stage of rapid solidification of 18-8 stainless steel, 363
- irregular eutectic solidification, 129
- laser rapid solidification of Al-Cu alloys: banded and plane front growth, 335
- macrostructural development in aluminium alloys solidified vertically downwards, 123
- melt motions during unidirectional solidification of Al-Al₃Ni eutectics, 137
- metastable solidification process of Ln₃Al₅O₁₂ (Ln = Dy, Y, Lu) garnets, 185

- microstructure development and ultramicrohardness of AlFeCe solidified under free fall conditions, 165
- model-based directional solidification of semiconductor materials by the VGF-technique using multi-zone cold wall furnace technology, 67
- morphologies of primary Al₃Fe in Bridgman solidification and TIG weld traversing of hypereutectic Al-Fe alloys, 109
- optical monitoring of the solidification process of polyester and vinyl resins, 181
- precipitation during the solidification and cooling of microalloyed iron, 309
- rapid solidification of undercooled eutectic and monotectic alloys, 357
- rapidly solidified ribbons of Fe-2C-13Cr-1Si-Mo alloys by the planar flow melt spinning process, 403
- solidification microstructures of aluminium AlSi7Mg-SiC particulate composite, 243
- solidification modelling of microstructures in near-net-shape casting of steels, 323
- solidification of Al-6Zn-2Mg alloy after laser remelting, 351
- steady state solidification of reinforced binary alloys, 205
- the gas velocity profile of a free fall atomizer and its relation to solidification microstructure of collected spray droplets of 2014 aluminium alloy, 161
- theoretical analysis on the suppression of solidification shrinkage flow in continuously cast steel blooms, 305
- thermoelectric magnetohydrodynamic effects on solidification of metallic alloys in the dendritic regime, 93
- three-dimensional probabilistic modelling of equiaxed eutectic solidification in the presence of convection, 143

Spinning

- continuous casting of thin wires and fibres by in-rotating-liquid spinning, 327
- numerical simulation of cluster growth during the transient nucleation period in melt-spinning, 397

Steel

- continuous casting of steel: a close connection between solidification studies and industrial process development, 275
- numerical model for prediction of the final segregation pattern of bearing steel ingots, 317

Steels

- analysis of segregations in as-cast X₄₀CrMoV₅₁ steel, 313
- control of molten steel flow in continuous casting mold by two static magnetic fields imposed on whole width, 293
- initial stage of rapid solidification of 18-8 stainless steel, 363
- model optimization of continuous casting steel secondary cooling, 287
- solidification modelling of microstructures in near-net-shape casting of steels, 323
- theoretical analysis on the suppression of solidification shrinkage flow in continuously cast steel blooms, 305

Strain

- strain induced macrosegregation in squeeze cast Al-Ag and Al-Si alloys, 267

Stress

- development of a new crystal growth process using a semiconductor powder and reducing the thermal stresses, 55

Strontium

- microstructure of laser floating zone (LFZ) textured (Bi,Pb)-Sr-Ca-Cu-O superconductor composites, 201

Surface instabilities

- surface instabilities and dislocation formation during crystal growth, 29

Tantalum

- high drop tube undercooling experiments on Ta-Zr alloys, 391

- Thermal analysis
 - thermal analysis on zone-melting recrystallization of silicon-on-insulator films using a finite difference method, 59
- Thermal soft reduction
 - thermal soft reduction in continuously cast slabs, 299
- Thermoelectrics
 - thermoelectric magnetohydrodynamic effects on solidification of metallic alloys in the dendritic regime, 93
- Thin films
 - crystallization of amorphous thin LPCVD Si films: "*in situ*" TEM measurement of nucleation and grain growth rates, 379
 - dynamics of the solidification of laser-annealed Si thin films, 347
 - fast-crystallizing Sb-based thin films under pico- and nano-second laser pulses, 343
 - low pressure permanent mould process simulation of a thin wall aluminium casting, 255
- Thin wires
 - continuous casting of thin wires and fibres by in-rotating-liquid spinning, 327
- TIG welding
 - morphologies of primary Al_3Fe in Bridgman solidification and TIG weld traversing of hypereutectic Al-Fe alloys, 109
- Titanium
 - preparation and crystallization of $Ti_{50}Mn_{50}$ amorphous alloy, 383
 - thermal and electrical properties of metastable alloy 72%Ti-28%Co, 387
- Transmission electron microscopy
 - crystallization of amorphous thin LPCVD Si films: "*in situ*" TEM measurement of nucleation and grain growth rates, 379
- high speed transmission electron microscopy laser quenching, 409
- Tunable substrates
 - crystallization of tunable substrate optoelectronic materials, 197
- Vanadium
 - analysis of segregations in as-cast $X_{40}CrMoV_{51}$ steel, 313
- VGF technique
 - model-based directional solidification of semiconductor materials by the VGF-technique using multi-zone cold wall furnace technology, 67
- Vinyl
 - optical monitoring of the solidification process of polyester and vinyl resins, 181
- Wagner regions
 - kinetics of oxide crystal growth in the transmission regime between Cabrera-Mott and Wagner thickness regions, 193
- Wide freezing range
 - effects of squeeze casting on the wide freezing range binary alloys, 227
- Yttrium
 - metastable solidification process of $Ln_3Al_5O_{12}$ ($Ln \equiv Dy, Y, Lu$) garnets, 185
- Zinc
 - solidification of Al-6Zn-2Mg alloy after laser remelting, 351
- Zirconium
 - high drop tube undercooling experiments on Ta-Zr alloys, 391

